

Title (en)  
Digital transmitters for wireless communication

Title (de)  
Digitale Sender zur drahtlosen Kommunikation

Title (fr)  
Transmetteurs numériques pour communication sans fil

Publication  
**EP 2134053 B1 20141217 (EN)**

Application  
**EP 09012581 A 20061120**

Priority  
• EP 06851182 A 20061120  
• US 73789805 P 20051118  
• US 56126206 A 20061117

Abstract (en)  
[origin: US2007160164A1] Digital transmitters having improved characteristics are described. In one design of a digital transmitter, a first circuit block receives inphase and quadrature signals, performs conversion from Cartesian to polar coordinates, and generates magnitude and phase signals. A second circuit block (which may include a delta-sigma modulator or a digital filter) generates an envelope signal based on the magnitude signal. A third circuit block generates a phase modulated signal based on the phase signal. The third circuit block may include a phase modulating phase locked loop (PLL), a voltage controlled oscillator (VCO), a saturating buffer, and so on. A fourth circuit block (which may include one or more exclusive-OR gates or an amplifier with multiple gain states) generates a digitally modulated signal based on the envelope signal and the phase modulated signal. A fifth circuit block (which may include a class D amplifier and/or a power amplifier) amplifies the digitally modulated signal and generates an RF output signal.

IPC 8 full level  
**H04L 27/36** (2006.01)

CPC (source: EP KR US)  
**H03C 5/00** (2013.01 - EP US); **H03D 13/00** (2013.01 - EP US); **H03F 1/0205** (2013.01 - EP US); **H03F 3/217** (2013.01 - EP US); **H03F 3/245** (2013.01 - EP US); **H04L 27/36** (2013.01 - KR); **H04L 27/361** (2013.01 - EP US); **H03F 2200/321** (2013.01 - EP US); **H03F 2200/331** (2013.01 - EP US); **H03F 2200/336** (2013.01 - EP US); **H03F 2200/451** (2013.01 - EP US); **H03F 2200/456** (2013.01 - EP US)

Citation (examination)  
YONGHUI HUANG ET AL: "Filter considerations in polar transmitters for multi-mode wireless applications", WIRELESS AND MICROWAVE TECHNOLOGY, 2005. THE 2005 IEEE ANNUAL CONFERENCE CLEARWATER, FL, USA APR. 7-8, 2005, PISCATAWAY, NJ, USA, IEEE, 7 April 2005 (2005-04-07), pages 133 - 136, XP010850015, ISBN: 978-0-7803-8861-1, DOI: 10.1109/WAMIC.2005.1528401

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US9337876B2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2007160164 A1 20070712; US 8411788 B2 20130402**; AT E464724 T1 20100415; CN 101361341 A 20090204; CN 101361341 B 20160127; DE 602006013711 D1 20100527; EP 1969798 A2 20080917; EP 1969798 B1 20100414; EP 2134053 A2 20091216; EP 2134053 A3 20110504; EP 2134053 B1 20141217; EP 2285058 A2 20110216; EP 2285058 A3 20120502; EP 2285058 B1 20141217; EP 2285059 A2 20110216; EP 2285059 A3 20120523; EP 2285059 B1 20150211; JP 2009516963 A 20090423; JP 2012105288 A 20120531; JP 5619713 B2 20141105; KR 100977325 B1 20100820; KR 20080069257 A 20080725; WO 2007120281 A2 20071025; WO 2007120281 A3 20080502

DOCDB simple family (application)  
**US 56126206 A 20061117**; AT 06851182 T 20061120; CN 200680051285 A 20061120; DE 602006013711 T 20061120; EP 06851182 A 20061120; EP 09012581 A 20061120; EP 10013699 A 20061120; EP 10013700 A 20061120; JP 2008541509 A 20061120; JP 2011263525 A 20111201; KR 20087014766 A 20061120; US 2006061124 W 20061120